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POLICY DEBATES

Structure, agency and local climate governance: how do individual actors exploit local contexts to shape policymaking in smaller cities and towns?

Wolfgang Haupt[a], Leonie Laug[a] and Peter Eckersley[a,b]

ABSTRACT

Previous studies stress that structural conditions influence local climate action, but often neglect the role of agency in policymaking. Drawing on fieldwork in 11 German towns, we show how municipal managers frame climate-related policies in different ways to gain local support for action. Although these framings are influenced by each town's socio-economic, demographic and political conditions, as well as its vulnerability to climate threats, they nonetheless highlight the importance of individuals in policymaking. We then present a two-dimensional framework to inform future research into structure and agency in local governance, whilst cautioning that undertaking such studies can be difficult.

KEYWORDS

climate policy; climate managers; policy entrepreneurs; agency; structural conditions; structuration

JEL Q48, Q54, Q56, Q58

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1. INTRODUCTION

A growing literature has emphasised how structural factors shape levels of ambition in local climate policy (Bedsworth & Hanak, 2013; Duma & Nilsson, 2024; Homsy, 2018; Kern et al., 2021b; Krause, 2011; Zahran et al., 2008). Specifically, cities that have larger, wealthier, highly educated and younger populations, which are supported by local universities and research institutes, and in which civil society organisations and green parties are strong and active, are more likely to be 'forerunner' (Duma & Nilsson, 2024; Haupt et al., 2023; Kern et al., 2021b; Wurzel et al., 2019) in climate mitigation and adaptation. Conversely, smaller municipalities, with less wealthy and older populations, which are more reliant on heavy industry and with weaker civil society organisations and green parties, are more likely to be 'followers' or even 'laggards' (Haupt et al., 2023; Otto et al., 2021).

Such studies are informative from an academic perspective (because they identify the key factors that contribute towards more ambitious policymaking), and instructive for policymakers (who can pinpoint where additional support and funding schemes may be necessary to ensure that all cities keep pace with the forerunners). However, they neglect to take account of agency and the likelihood that individuals in some municipalities could pursue ambitious climate policy in spite of operating in disadvantageous local conditions. In fact, a growing body of literature explores how 'disadvantaged' places have nevertheless managed to become climate pioneers (Haupt & Kern, 2022; Homsy, 2018; Kern et al., 2021a; Wurzel et al., 2019). Such studies suggest that the efforts of active individuals and actor coalitions within municipal administrations contribute towards these unexpected outcomes. At the same time, cities that we might expect to become forerunners due to their favourable socio-economic and political conditions may instead be slower to adopt ambitious policies because of the actions of key individuals in the municipality.

In line with Toivonen (2022, p. 2), we understand agency as an 'internal attribute of a single human being' or a coalition of human beings that can lead to 'perceivable "external" impacts' und thus understand agency as the '"capability" to impact change'. Disentangling structure and agency is notoriously difficult and this puzzle extends beyond the local climate governance literature. For example, Sotarauta and Beer (2017, p. 210) and Beer et al. (2019, p. 172) highlight how they both play a role

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in place leadership. Given these considerations, how can we incorporate structure and agency into studies of local climate policymaking? Specifically, how do certain structural conditions influence how municipal climate managers negotiate climate policymaking processes – and how might these individuals seek to exploit particular local contexts to pursue more progressive policy? Following Ortner (2006), we recognise that actors will have varying levels of agency, depending on the resources they possess and how actively they wish to pursue their interests in social relations. In line with Giddens' (1979) concept of structuration, therefore, we examine how climate managers seek to exploit and/or negotiate their specific local contexts to try to develop and implement more ambitious climate initiatives than might otherwise be the case.

As Cairney (2018) suggests, the role of agency and the strength of policy entrepreneurs may be particularly profound in smaller organisations. Moreover, there is a lack of research on climate governance in smaller municipalities (Castán Broto, 2020; van der Heijden, 2019); most studies have focused on larger and often high-profile cities (Bulkeley et al., 2015; Castán Broto, 2020; van der Heijden, 2019; Wurzel et al., 2019). Therefore, we restrict our case selection to small cities and towns with fewer than 100,000 inhabitants, which we henceforth refer to collectively as 'towns'. We draw on expert interviews and document analysis in 11 such municipalities in Germany to examine interactions between structure and agency during policymaking processes, highlighting how contrasting local contexts influenced the ways in which climate managers framed policy proposals. We then build on our empirical findings to present a framework conceptualising how a combination of structure and agency could contribute to municipalities becoming climate forerunners, followers or laggards/latecomers.

The rest of the paper is structured as follows. The next section explores the current literature on the importance of local structural conditions and key individual actors for local climate governance. Thereafter, we present our methodological approach and explain the case selection. We then present, explain and discuss our findings, before ending with some conclusions.

2. STRUCTURAL CONDITIONS AND AGENCY IN LOCAL CLIMATE GOVERNANCE

2.1. How local structural conditions shape climate governance

In a recent article, Haupt et al. (2023) identified a set of socio-economic, economic and political conditions that have a considerable impact on a city's climate transformation pathway. Building on previous studies, they stress that an above-average educated and below-average aged population can contribute towards more progressive local climate policy (Bedsworth & Hanak, 2013; Krause, 2011; Zahran et al., 2008). These demographic factors often result in a stronger local civil society (Haupt et al., 2023; Homsy, 2018; Krause, 2011), in which environmental and climate groups are particularly active. Such conditions are also linked with more ambitious local climate policy (Kern et al., 2021b; Zahran et al., 2008), partly because younger people tend to be more concerned about climate and environmental issues (Hickman et al., 2021). For example, a study of 21 mid-sized German cities demonstrated that local Fridays for Future (FfF) groups are much larger, more powerful and far more demanding in cities with an above-average educated and below-average aged population (Haupt et al., 2023). Indeed, physical proximity to universities and public and non-public research institutions can also have advantages for local climate governance, because these organisations can develop knowledge (e.g., through applied projects, student projects or dissertations) and collaborate with local municipal administrations (Bery & Haddad, 2023; Eckersley, 2018; Keeler et al., 2019). In turn, they may also recruit future climate policy specialists directly from the university after graduation (Haupt et al., 2023; Kern et al., 2021b).

Economic factors are also important for local climate governance. For example, cities with above-average salaries and high employment rates tend to perform better in climate policy (Bedsworth & Hanak, 2013; Krause, 2011; Zahran et al., 2008). The same applies to cities with a high share of people employed in the service sector, especially those dominated by jobs that require highly qualified specialists (Kern et al., 2021b). Likewise, because larger industrial companies are either totally absent or play a very minor role in these cities, local politicians are less likely to face high political costs or risk major conflicts if they seek to pursue more active climate policies (Kalt, 2021).

Furthermore, these socio-economic factors contribute to political conditions that are favourable for climate governance. First, because younger and well-educated citizens are more likely to vote for green or alternative parties, or parties and candidates that give higher priority to environmental and climate matters (Kern et al., 2021b). Second, because right-wing populist parties, which often adopt climate-sceptic positions (Huber, 2020; Huber et al., 2020; Kulin et al., 2021), are usually weak or not represented in these local councils (Haupt et al., 2023). Third, because the presence of strong environmental and climate groups that push for more climate action puts stronger pressure on local politics to take action (Grzymala-Kazlowska & O'Farrell, 2023; Haupt et al., 2023). And finally fourth, because economically secure and wealthy cities have greater financial capacities to pursue climate action strategically, rather than just sporadically or incrementally (Kern et al., 2021a). Overall, cities in which these structural conditions are present are more likely to adopt resolutions to reduce greenhouse gas emissions or to become climate-neutral (Ravetz et al., 2021), to declare a climate emergency (Haupt et al., 2023) and to develop climate mitigation or adaptation plans (Otto et al., 2021). They are also more likely to employ additional staff to coordinate and implement climate policies, and to institutionalise and embed mitigation and adaptation within the municipal administration (Göpfert et al., 2019; Otto et al., 2021).

2.2. How key individual actors shape local climate governance

However, despite the importance of the structural conditions described above, actors that operate within urban political institutions are still able to exercise agency in influencing local policies. This will almost certainly vary from city to city, and be shaped by the resources these individuals possess and the degree of autonomy they can exercise, but governance arrangements and policy approaches are not predetermined by the multilevel and socio-economic context. As such, individual actors within a local administration can be key for climate action (Corcaci & Kemmerzell, 2023; Fenton, 2016; Hörter et al., 2018; Kern et al., 2021a; Olson et al., 2021; Vedeld & Hofstad, 2022). Reflecting the pivotal role that they often play in policymaking, Haupt and Kern (2022, p. 4) define such individuals as 'local actors that determine or influence a city's climate policy pathway'. Although agency in a climate change context can also be exerted by non-state actors (Nasiritousi et al., 2016), our study focuses on the role of key individuals working within local government. Hörter et al. (2018) characterised key actors in local climate governance as having a sense of high pressure to act, high personal reputation and strong networking skills. They provide information, but also initiate, accelerate and support change processes in local administrations. Focusing on the German context, Hörter et al. distinguish four types of key actors, which are primarily classified according to their role in policymaking: First, *information brokers*, for example, scientists that do not have any direct decision-making competencies since they do not hold positions in the municipal administration. Despite this, they can still initiate a local process through their expertise – ideally also in the form of detailed knowledge about the respective city. Second, *supporters*, for example, climate managers or municipal staff in environmental departments or related units, who are in charge of climate action. They are hierarchically located at the administrative level and are typically the ones 'who bring together and hold the threads in the network' (Hörter et al., 2018, p. 19). Third and fourth, we have key actors at the management level (*initiators and accelerators*) that kick off or speed up processes and set change in motion. *Initiators and accelerators* can be, for example, mayors, heads of environmental departments or managing directors of public utilities.

Supporters, *initiators* and *accelerators*, as we understand them, show a high degree of similarity with policy entrepreneurs. The political science literature characterises policy entrepreneurs as individuals who invest considerable time and effort in trying to put and keep an issue on the political agenda and achieve their policy goal(s), thereby influencing agenda setting, policy formulation and sometimes triggering policy change (Cairney, 2018; Corcaci & Kemmerzell, 2023; Kingdon, 1984). Cairney (2018, p. 199) explains that this often 'requires framing a problem, having a solution ready, and exploiting the motive and opportunity of policymakers to select it'. Indeed, there is a growing literature on the importance of problem-framing in policymaking (Knaggård, 2015; Reardon, 2018; Wright et al., 2023), albeit one that has only recently begun to examine how this plays out in terms of local climate governance (Zanocco & Sousa-Silva, 2023).

Previous research highlights how such key actors can positively influence local climate governance. For example, they can use their knowledge of the policymaking process to establish and maintain contacts with key local politicians (e.g., city mayors or deputy mayors) to bring or keep climate action or wider sustainability matters on top of the municipal agenda (Corcaci & Kemmerzell, 2023; Fenton, 2016; Haupt & Kern, 2022; Kern et al., 2021a). Given that studies have shown how mayoral support is essential for successful climate policymaking (Growe & Freytag, 2019; Kern et al., 2021a; Sancino et al., 2022), we can see how these attributes can play a crucial role in pushing forward a progressive approach. Studies have highlighted how policy entrepreneurs frame their preferred policies as solutions to problems that emerge, sometimes after sudden shocks or events that grab the attention of key local politicians (Cairney, 2018; Eckersley & Lakoma, 2022). One example here might be a heatwave or severe pluvial flooding event, which could result in a city being more likely to approve climate adaptation measures (Kern et al., 2021a; Zanocco & Sousa-Silva, 2023). Indeed, previous research has shown that local vulnerabilities to climate change can raise awareness among the population and policymakers and eventually lead to the implementation of adaptation policies (Kern et al., 2023; Otto et al., 2021). Moreover, successful key actors are also aware of and connected with a diverse set of additional local stakeholders from different sectors, such as the municipal administration, civil society or economy (Fenton, 2016; Haupt & Kern, 2022; Kern et al., 2021b; Moloney & Fünfgeld, 2015). Their networks are not limited to their municipality but can also include connections with colleagues from their regions, countries or even from foreign countries (Fenton & Paschek, 2018; Hörter et al., 2018; Lintz, 2016). The latter particularly applies to municipalities active in municipal climate networks (Busch et al., 2018; Sancino et al., 2022). In addition, key actors often manage to set up collaborations with scientists (*information brokers*) at the project level. These collaborations can help when generating the necessary knowledge to inform local heat maps or heavy rain hazard maps (Haupt & Kern, 2022; Kern et al., 2021b). Finally, an important task of key actors, particularly in municipalities that are experiencing resource constraints, centres around the acquisition of third party funds. External funding can contribute towards the recruitment of temporary municipal staff, the development of mitigation, adaptation and mobility plans or the implementation of policies (Fenton & Paschek, 2018; Kern et al., 2023; Otto et al., 2021). Nevertheless, skills and efforts are not the only factors that contribute to the successful of these local actors. Indeed, as emphasised by Kingdon

(1984), ideal policy entrepreneurs are normally just the right people, in the right place, at the right time. This highlights that some success factors are simply outside the sphere of their influence. In other words, they also need to be lucky.

2.3. How structural conditions and agency relate to each other

We posit that both structure (local socio-economic, demographic and political factors) and agency (the strategies and behaviour of individual actors within municipalities) are influential in shaping climate policy. Where local conditions are ripe for action, and where relevant individuals possess the requisite resources to push policy forward, they are most likely to be successful. For example, we might expect municipal climate managers to find it easier to progress their agenda if they have specific knowledge or expertise related to possible policy options, and/or access to wider networks and funding opportunities. Moreover, following Cairney (2018), Reardon (2018) and Eckersley and Lakoma (2022), we suggest that agency may be more important in smaller organisations, since these contexts allow individuals to exercise more influence in policymaking processes.

However, it can often be difficult to disentangle structure from agency in policymaking contexts. In the specific area of local climate policy, for example, a climate manager's position within the municipality shapes whether and how they might be able to push forward a particular initiative. Other factors, such as the existence of support networks or funding opportunities, will also affect how much they can influence decisions (Haupt & Kern, 2022). If we understand agency as having the resources, capacity and ability to pursue an autonomous path (Ortner, 2006), the extent to which an individual can exercise this power is clearly shaped by the structural context within which they operate. To complicate matters further, even if individuals possess a great deal of power and resources, they may choose not to exercise their agency and remain passive.

Giddens (1979) sought to overcome this dichotomy with his concept of 'structuration' as a way of balancing both structure and agency in social relations. Giddens stressed that many structural conditions influence – often subconsciously – how actors operate, but nonetheless left room for individuals to choose to act and exploit certain conditions in order to further their own particular desires. As we discussed earlier with regard to policy entrepreneurs, a key part of this depends on whether key actors know how they might be able to exploit social situations to pursue their own interests. The extent to which an individual can exercise agency might therefore depend as much on knowing which levers to pull as being in a position to pull them. Knowledge of the specific context, alongside an individual's position in the social hierarchy, financial resources, networks and other skills and resources, play a crucial role in shaping whether, how, and the extent to which people can exercise agency. In the specific case of local climate policy, for example, we can see how municipal managers might seek to push for a greater focus on adaptation following a severe weather event, or incorporate mitigation initiatives into other policy areas that the municipality considers a higher priority (e.g., economic development). Given that policymaking structures vary considerably according to local contexts, we might expect climate managers to deploy very different strategies in their own particular situations, reflecting their respective knowledge of local policymaking arrangements. In this way, we can see how the policy entrepreneurs described above might exercise varying degrees of agency and adopt very different strategies, depending on both the local context and their own skills and awareness.

3. METHODOLOGICAL APPROACH

We drew on previous studies and publicly available socio-demographic and electoral data to identify 11 towns in Germany in which the structural conditions that contribute towards more ambitious climate policy vary considerably (see Table 1 for a detailed overview). Specifically, we regard towns with growing populations, high primary incomes, high shares of employees in the service sector, low unemployment rates, younger populations, high shares of 'green' voters (e.g., *Die Grünen*, *Ökologisch-Demokratische Partei* – ÖDP, or similar local electoral groups), weaker populist or extremist right-wing parties (e.g., *Alternative für Deutschland* – AfD and *Nationaldemokratische Partei Deutschland* – NPD), and a strong student presence as having favourable conditions for progressive climate policy. Conversely, where most (or indeed all) of these structural conditions are not present, we regard the town as operating in an unfavourable context for local climate policy. To control for town size and to maximise the potential agency of policy entrepreneurs in policymaking processes, we restricted our selection to small and medium-sized municipalities (Figure 1), with populations ranging from 49,500 (Emden) to 91,000 (Gera).[1]

Our empirical work is based on document analysis and expert interviews. We analysed key strategic documents from the 11 case study municipalities, particularly mitigation and adaptation plans but also sustainability, mobility or integrated municipal development plans where they existed (see also Appendix A in the supplemental data online for a more detailed overview). Additionally, we examined reports (e.g., climate or energy reports), webpages (e.g., of the environmental departments or climate coordination units), minutes of council meetings and media sources (e.g., newspaper articles or television reports). We then conducted 19 semi-structured expert interviews between January 2022 and February 2023, 13 of which were with municipal staff (totalling 10 climate managers, a head of the environment department, a head of town development and one climate adaptation officer), and six with local civil society representatives. Written informed consent was provided by the interviewees to use the interview material for research purposes. Due to the relatively small size of our municipalities, most of them only employed a single climate manager. In those places where we spoke to

Table 1. Local structural conditions in the 11 case study towns.[a]

	Socio-economic factors			Demographics			Political factors	
Town	Primary income (2019)	Employed in the service sector (2019)	Unemployment (2021)	Population trend (1992–2019)	Average age (2020)	Share of students (2022)	Share of green parties (last election)	Share of right-wing populist parties (last election)
Konstanz	€32,370[b]	85.5%	4.5%	14%	42	19%	31.8%	Not represented in council
Kempten	€28,378	82.3%	3.8%	11%	44.2	8%	30.0%	6.8%
Elmshorn	€32,071[b]	*72.5%*	6.3%	5%	43.4	5%	18.3%	Not represented in council
Worms	€26,265	75.5%	8.2%	7%	43.6	4%	16.0%	10.8%
Arnsberg	€30,009[b]	63.1%	6.4%	–3%	45.4	0%	14.2%	4.2%
Emden	€22,884	65.4%	8.5%	–3%	43.9	8%	14.2%	Not represented in council
Neumünster	€22,176	80.9%	8.7%	–2%	44.8	0%	16.4%	3.9%
Stralsund	€20,595[b]	No data	11.0%	–18%	47.2	4%	15.0%	13.9%
Neubrandenburg	€20,605[b]	83.3%	8.7%	–27%	47.4	3%	11.2%	16.8%
Görlitz	€18,603[b]	74.7%	11.6%	–19%	47.8	3%	7.6%	30.8%
Gera	19,628	66.6%	7.9%	–28%	49.2	2%	6.7%	28.8%
National average	€29,176	74.6%	5.7%	3%	44.6	3%	15.0%	10.4%
	€52,782		14.8%	41%	65.3		33.4%	28.1%
	€18,326		1.9%	–38%	27.9		5.1%	5.3%

Note: [a]Municipal databases, local chambers of commerce, the Federal Employment Agency, Statistical Offices of the Federation and the *Länder*.
[b]For reasons of data availability, these figures are for the wider county (*Kreis*) within which these municipalities are located.
Source: Adapted from various municipal and federal sources.

Figure 1. Location and our assessment of structural conditions for the 11 case study towns. Source: Authors.

more than one individual, we did not glean much extra information from these additional interviews. We therefore reached data saturation for each case fairly quickly.

We based our semi-structured interviews on an interview guide consisting of around 20 open questions that sought to identify municipal practitioners' strategies to cope with and exploit different local contexts. The questions were subdivided into four thematic blocks, which covered: the professional background and work experience of the interviewee; the municipality's climate policy pathway and current state of climate policy; the role of actors from politics, economy and civil society and their influence on local climate policy; and, the expected and desired future development of the town's climate policy. Additionally, case-specific questions on different topics were added to each interview guide. All interviews were voice recorded and the interviews with municipal practitioners were fully transcribed and coded. This coding process focused on the climate managers' strategies to deal with different socio-economic, demographic, political and climate risks factors, as well as how these factors influenced the way they framed climate policy.

Although it is difficult to control for the level of agency that individuals may be able to exercise within specific contexts, we ensured that all our municipal interviewees were either highly experienced in their roles (in some cases they had worked for the town for several decades), and/or had relevant academic backgrounds in climate science, urban planning, or public administration. We therefore expected them to be able to draw upon comparable skillsets in policymaking processes within their respective municipalities. Following Hörter et al. (2018) we focus on *supporters* (climate managers, municipal staff below management level) and on those *initiators* and *accelerators* that have no political mandate or power

(heads of municipal departments). We chose to focus on climate managers because they concentrate exclusively on climate change, more specifically on how to integrate this cross-cutting issue into municipal administration processes.

We excluded politicians from our analysis for two reasons. First, politicians contribute towards the wider structural context that shapes the work environment and opportunities of municipal officers. Second, because climate policy is not a mandatory function of German local government, there is no single identifiable political role (such as a climate champion) for us to examine as a comparable unit of analysis across our 11 towns. Conversely, climate managers play a particularly important role in the German context because many of them are financed through a specific national subsidy programme (Kenkmann et al., 2022; Kern et al. 2023). As a result most municipalities have been able to employ them (Zeigermann et al., 2023), which makes it easier to compare how different local conditions shape their activities and influence. In many cases these climate managers started as temporary employees, but after the initial funding period expired their respective municipalities chose to fund them directly on a permanent basis (Hörter et al., 2018; Kern et al. 2023; Otto et al., 2021). We also spoke to civil society actors to complement and critically check our interviews with municipal government officers. These civil society representatives included four activists from FfF groups and two individuals who were concerned with wider sustainability and environmental topics.

4. CLIMATE MANAGERS EXERCISING AGENCY WITHIN DIFFERENT STRUCTURAL CONSTRAINTS

We found that climate managers in our case study towns adopted various different strategies to push forward climate policy, often shaped by the constraints of their specific contexts. We recognise that the different types of structural conditions we set out in Table 1 overlap (e.g., wealthier towns tend to have growing populations and stronger Green parties). Nevertheless, to help the reader follow our argument, we split our findings and analysis into four subsections, focusing on the socio-economic, demographic, political and local climate contexts respectively.

4.1. Socio-economic factors

We found that economic actors were often quite influential in climate policymaking, particularly in those towns with less favourable socio-economic conditions, such as those with high unemployment, a high dependency on fiscal transfers, and low average incomes (see also Table 1). Such municipalities were more constrained financially, and tended to prioritise economic development over climate concerns as a result. For example, one of our towns is seeking to develop new infrastructure for offshore hydrogen projects. The climate manager sees his role as highlighting the negative environmental effects of this project in conversations with different administrative and political actors who extol its potential economic benefits (interview 3). However, private firms in other more disadvantaged areas wanted the municipality to be more active. For instance, although local socio-economic conditions in Neubrandenburg are not conducive to progressive climate policy, companies have threatened to leave the town if it does not increase the share of renewable energy (interview 15). In Emden, a large energy supplier approached the council many years ago to initiate the production of wind energy, which now has a longstanding tradition in the town (interview 3).

Our fieldwork confirmed that a town's socio-economic situation also affected the financial and human resources available to the municipality. Towns with higher employment and above-average incomes were less dependent on direct grant funding than their poorer counterparts, and in a better position to fund additional staff who focus solely on mitigation and adaptation. They were also able to prioritise projects and then fund them out of the municipal budget, whereas climate managers in poorer towns often had to search for funding programmes, convince other departments to support their bids, and then design their projects accordingly.

The climate managers we interviewed mentioned how they found other creative ways to fund their projects. Alongside public funding programmes, they garnered support through personal networks, such as by collaborating with universities. For example, two of our towns with unfavourable socio-economic conditions used university student projects to inform their mitigation and adaptation efforts. Administrators in Gera built on a bachelor thesis that sets out the possibility of introducing a 'climate-check' to force the town council to set out the climate change implications of its decisions (interviews 7, 8). In Neubrandenburg, the climate manager used his personal ties to universities in England and Switzerland to get doctoral students to work on climate-related models for the town (interview 15).

4.2. Demographic factors

Our interviewees confirmed the importance of demographics such as average age and the share of students in their respective towns. For example, climate managers in towns with a larger share of older people, such as Gera and Neubrandenburg, found it more difficult to win support for their mitigation efforts. Several interviewees also mentioned that older members of staff who had worked in the local administration for decades were more likely to prevent action, whereas a generational change in staff helped to bring policies forward. Notably, however, some municipalities with older populations found it easier to win public support by emphasising adaptation, as impacts such as heat stress are more tangible and affect older people disproportionately. For instance, Gera's head of the environmental department reduced the entrance fee for the local wildlife park on very hot days, thereby giving residents greater access to shading and greenery (interviews 7, 8). This example also illustrates

how policymakers in towns with little civic support for climate action sought to push for policies which create little controversy. Similarly, citizens exploited the tangible effects of climate change to gain public support and increase pressure on political actors. In Görlitz, an organised civic group highlighted that the temperature on a central square in summer exceeded 50°C (interview 10). Through media reports, they successfully mobilised political and public support across parties for the redesign of that square, including measures to reduce car traffic.

Our interviewees also mentioned higher education and research institutions as a source of support to the municipality's climate efforts, even in those towns that did not have large student populations. By way of contrast, climate managers in Gera, Neumünster and Stralsund explicitly contrasted their municipalities with university towns nearby, to emphasise how their lack of students made it more difficult for them to push policy forward (interviews 7, 16, 17). Towns with universities were more likely to have active FfF groups comprising local students and pupils, which then increase pressure on municipal governments to combat climate change. These groups have been successful in Konstanz, Kempten, Worms, Elmshorn and Emden, the municipalities in our sample that have the largest shares of students (interviews 3–5, 11, 13, 18). In other towns, FfF groups are much less active than they used to be at the movement's peak in 2019, as school pupils have moved away to attend university elsewhere, and the local groups have struggled to sustain an active core of members.

Reflecting how our selection of demographic and socio-economic factors overlap, it is notable that the two towns with the most advantageous local conditions for climate policy, Kempten and Konstanz, also benefit from very active civil society and third sector organisations. Furthermore, unlike our other case studies, civil society groups in these two towns are well connected to local administrative actors through different formats of exchange and collaboration (see also section 4.3).

4.3. Political factors

As we suspected, the political conditions for more active climate policy were more favourable in those towns where green and alternative parties won larger shares of the vote. For example, climate managers confirmed that recent increases in vote shares for the Green Party in Kempten and Konstanz have opened up new possibilities and helped them to push efforts in climate mitigation (interviews 11, 13). In contrast, political conditions were less favourable in municipalities where the right-wing AfD were particularly strong; climate managers in these towns faced much greater opposition (interviews 7, 17). We found it difficult to evaluate the influence of other political parties, because our interviewees suggested that the direction and level of support they received from the Social Democrats (*Sozialdemokratische Partei Deutschlands* – SPD) or the more conservative Christian Democrats (*Christlich Demokratische Union Deutschlands* – CDU/*Christlich-Soziale Union in Bayern* – CSU) varied a lot across our case studies. For example, conservative mayors started to initiate and push climate policies in Kempten and Stralsund 15 years ago (interviews 11, 17). While the CDU/CSU now tend to oppose more progressive climate policies in Kempten, they are more supportive in other towns such as Emden (interviews 2, 11). Smaller, local parties also tend to play a bigger role in towns compared with larger cities.

We found that political majorities within the council shaped both institutional structures and dominant narratives around climate change. In terms of institutional structures, for example, Kempten established a climate council and a working group on climate adaptation, in which members of civil society, politicians and administrative staff work together (interview 11). This collaboration between administration and civil society was more informal elsewhere: in Konstanz, FfF and the local climate manager worked together on the municipality's climate emergency declaration (interviews 13, 14). In other towns, ties between local administration and civic actors were either very loose (e.g., Emden) or barely existed at all (e.g., Neubrandenburg, Stralsund) (interviews 2, 3, 16, 17).

Regarding the narratives in which climate policies are embedded, we found that climate managers in towns with less favourable political contexts sought to frame adaptation policies under the umbrella of urban greening, and mitigation policies in terms of economic development. Avoiding the term 'climate change' when proposing adaptation measures proved to be a successful strategy in those towns with strong climate-sceptic parties. For example, a climate manager from Stralsund stressed that AfD politicians were not opposed to extending green spaces (interview 17). Climate managers in towns with moderately unfavourable political conditions, such as Emden, sought synergies between economic development and climate targets (interview 2). At the same time, this strategy of highlighting the economic benefits of new infrastructure for renewable energies or aiming to make new development projects more sustainable in terms of design standards downplayed the potentially negative environmental impacts, such as increased land take. Elsewhere, other municipalities used concepts of sustainability or carbon neutrality explicitly to promote the town, but tailored to different local contexts. For example, the climate manager in Konstanz (a town with favourable political conditions and an active civil society) emphasised how urban transformation would help the municipality to adhere to climate targets (interview 13). Arnsberg, a place with moderately unfavourable political factors and a less active civil society, has reformed its institutional structures but the town only shows slow progress regarding actual policies (interview 1). The situation in Görlitz, which has a very unfavourable political context for climate action, is very different again: in 2019 the CDU mayor incorporated climate neutrality into his election campaign to win over Green party voters in a two-way run-off with the AfD (interviews 9, 10). While Görlitz's website still states that

climate neutrality is a municipal objective, it has not been agreed upon in the council and there are no policies in place to underpin it.

4.4. Climate risk factors

The impacts of climate change are becoming real for residents in all our case study towns. Frequent heavy rainfall events on the one hand, and very dry, hot summers on the other, are increasingly affecting urban infrastructure and the well-being of residents. Compared with other German towns, Worms is one of the places most affected by both heat waves and heavy rain (interviews 18, 19). In Arnsberg, one person died due to a heavy rainfall event in 2007, and Gera experienced a 'once in a century' flooding event five years later (interviews 1, 7, 8). Located on the North Sea coast, Emden is affected by rising sea levels and heavily reliant on dyke protection (interviews 2, 3). Our interviewees in Elmshorn stressed that residents still remember a flood that swept away large parts of the town in the 1960s (interviews 4, 5). Summer heatwaves have caused water shortage in Kempten and Arnsberg, and residents in Konstanz have watched Lake Constance almost drying up (interviews 1, 11, 13). In towns located near to large forests such as Arnsberg and Gera, dying trees have made the impacts of climate change more visible (interviews 1, 7, 8).

Yet, these impacts of climate change only translated into climate action in our towns where climate managers decided to draw on them to gain political and civic support for their action. In addition, we found that these individuals were more likely to highlight the effects of climate change when pushing for action on adaptation than for mitigation. This was particularly the case in towns with older populations, whose citizens are more vulnerable to extreme heat but perhaps still reluctant to support mitigation efforts, for example, Gera, Neubrandenburg, Görlitz, and Stralsund (interviews 7–10, 17). While this has not led to particularly substantial adaption policies in these four towns, the situation is quite different in Worms and Elmshorn. Both places are shaped by moderately favourable socio-economic, demographic and political factors, which would lead us to expect slightly above-average levels of climate action. This was the case in terms of mitigation, but both towns are actually forerunners in adaptation. Elmshorn has participated in several research projects to develop adaptation plans with a focus on heavy rainfall events (interviews 5, 6). Alongside developing separate plans to address heavy rainfall and heat, the climate manager in Worms set up a network with climate managers from other towns to exchange knowledge and experiences in the area of adaptation (interview 18).

In other case study towns, climate managers have set different priorities. For example, in Konstanz – a town with overwhelming civic and political support for climate action (at least rhetorically) – the climate manager explicitly mentioned that he prioritises climate mitigation over adaptation. Whilst he agreed that adaptation was important, he did not want resources to be diverted away from mitigation and was concerned that shifting the focus too much could suggest that mitigation efforts have failed (interview 13).

5. POLICY IMPLICATIONS: TOWARDS A MORE NUANCED UNDERSTANDING OF AGENCY IN POLICYMAKING

Our study highlights how local climate managers can negotiate different local structural conditions, particularly their socio-economic, demographic and political contexts, and develop and frame their climate policy strategies accordingly. Towns with active climate managers were able to push forward with ambitious policies, in some cases even despite unfavourable local conditions. Nonetheless, we show that contrasting socio-economic, demographic and political contexts, as well as the locality's vulnerability to climate threats, strongly influence the strategies they adopt to achieve this, and set out the factors that can help them exercise greater agency in policymaking processes (see Table 2 for a more detailed overview).

Drawing on the findings in Table 2, we identified different patterns of climate managers' responses to contrasting local structural conditions. Taken together, we can see how agents' awareness of local structural conditions shaped the strategies that they adopted when seeking to promote climate policy within the municipality. Specifically, those who worked in towns with more advantageous socio-economic conditions had less need to be inventive in terms of identifying financing opportunities. In contrast, climate managers from poorer towns were much more reliant on external grants and often keener to collaborate with local universities, which meant they had to be more innovative and outward-looking to access the necessary capacities to develop and implement policy. Moreover, climate managers in these areas tended to frame mitigation differently in order to 'sell' it as beneficial for the town. This includes stressing the potential benefits of low-carbon industries for economic development, or emphasising that renewable energies can contribute to energy security by reducing dependency on (foreign) oil and gas. In those places where demographic factors are more advantageous for local climate policy – often the case in towns with a university – climate managers could often rely on support from local students and active civil society actors, which usually included keeping up the pressure on local politicians. In towns that lack such support, climate managers tended to focus more on adaptation than mitigation, particularly in places with older populations that are more vulnerable to climate extremes. Looking at political factors, we observed that climate managers had many more options to bring and keep climate change on top of the agenda if they work in municipalities where strong Green or alternative parties push for stringent mitigation policies and/or in towns with a general political consensus on climate action (at least at the rhetorical level). Such political conditions even enabled them to confidently remind and push politicians to take their climate pledges seriously. The situation was quite

Table 2. Climate managers' key strategies to deal with structural conditions in the 11 case study municipalities.

	Structural conditions	Agents' strategies
Konstanz	• Political consensus on the importance of climate action	• Collaborate with civic actors • Try to raise awareness among disadvantaged groups
Kempten	• Political support for climate action • Strong, institutionalised ties between administrative, political and civic actors	• Seek to ensure that political objectives and narratives are underpinned with policies and monitoring systems
Worms	• Highly vulnerable to heat and heavy rain	• Focus on climate adaptation plans, policies and networks
Elmshorn	• Highly vulnerable to flooding	• Focus on flooding to gain political support and funding for climate adaptation staff and policies
Arnsberg	• Many energy-intensive small and medium-sized enterprises (SMEs) with ambitious climate goals	• Build networks with private firms and chamber of commerce to foster collaboration
Emden	• Focus on economic development framed as sustainable development (e.g., renewable energy projects)	• Emphasise environmental costs of economic development, seek to make projects substantially more sustainable
Stralsund	• Conservative council and mayor with little political support for climate action	• Avoid the term 'climate', focus on 'urban green' instead
Neumünster	• Political support but little civic engagement	• Promote administrative action to raise awareness and make their practices visible
Görlitz	• Increasing political support, but strong right-wing party • Former industrial town with population decline and high unemployment	• Focus on energy transition • Seek advice through a quality management and awarding system (eea[a]) for municipalities
Gera	• Little political support, strong right-wing party • Unfavourable socio-economic conditions	• Pursue limited, uncontroversial policies to raise awareness • Use external funding as an incentive to overcome resistance in other departments
Neubrandenburg	• Limited municipal funding • Private firms are threatening to leave if the share of renewable energy does not increase	• Collaborate closely with doctoral students to support municipal plans • Frame renewable energies as necessary for economic development (e.g., due to reducing dependence on foreign fossil resources)

Note: [a]European Energy Award.
Source: Fieldwork interviews and municipal documentation.

different in areas where there is no such consensus, and even less favourable where strong climate sceptic parties (usually right-wing populists or extremists) had a strong influence on municipal politics. In such cases, climate managers sometimes avoided using the term climate change altogether, and put greater focus on adaptation – though they did not frame it as such, but instead referred to less contested terms such as greening'. Finally, climate managers in towns that are highly vulnerable to climate threats drew on collective memories of severe weather events to push adaptation. In contrast, managers in some towns with lower levels of climate risk may be concerned that a focus on adaption might divert resources away from mitigation, which they view as undesirable because reducing greenhouse gas emissions remains an essential element in addressing global climate change. Table 3 summarises these empirical findings.

Notwithstanding these broader patterns of individuals' responses to different local structural conditions, analysing the role of agency in social situations requires us to take account of the often informal nature of human interactions and relations, and the subjective way in which different individuals respond to similar stimuli. Epistemologically, this is tricky terrain to navigate – and therefore trying to assess and measure the extent to which agents exercise influence is fraught with difficulties. We could begin by undertaking a deeper analysis of the personal attributes (e.g., leadership, communication and conflict handling skills, as well as educational qualifications) that contribute towards individuals effecting change. As an example, we might expect a person's educational background to influence the extent to which they know about a particular policy issue and can champion potential policy solutions. Yet, all the climate managers we interviewed held university

Table 3. Climate policy framing in response to different structural conditions.

(Rather) favourable conditions	(Rather) unfavourable conditions	High climate risks
• Prioritising mitigation over adaptation • Involving civic actors to push politicians to stand by their commitments	• Developing alternative and less controversial ways to frame climate action • Identifying external funding sources	• Prioritising adaptation over mitigation • Convincing politicians to raise funds for adaptation and informing citizens about climate risks

degrees and some even had doctorates, albeit in various different disciplines. This made it difficult to ascertain whether planners, public policy specialists or climate scientists would be best placed to push forward local climate policy. Another issue here is whether this knowledge, and the way in which people deploy it in social situations, can be measured in any way. Most policy outputs (e.g., passing climate-related resolutions or implementing other climate-related policies) cannot be attributed to the efforts of a single individual, and some social contexts will be more sympathetic to climate policy than others. Climate managers who are surrounded by political and administrative actors who have little appetite for climate action are less likely to effect change than their counterparts elsewhere. Individuals in such situations who are unable to persuade others to act on climate change are not necessarily 'bad' climate managers. Indeed, as our study has shown, when working under unfavourable conditions climate managers apply different strategies to try to introduce policies that are less progressive than those in other localities. Nevertheless, these initiatives might still be the most appropriate (or most realistically achievable) options for the local context. Indeed, and to return to Toivonen's (2022) definition that we highlighted at the outset, although we certainly do not claim that our approach represents a failsafe method for assessing the role of agency in policymaking, we suggest that a closer focus on the strategies that individuals adopt to navigate and exploit structural conditions can help to identify their capability to impact change.

Future studies need to examine how such a – yet to be gained – more nuanced understanding of local agency might help us to unpack and better understand the interrelations between agency and structure. This also concerns the connection between the weight of (individual) agency and the degree to which structural conditions may be favourable. Such issues lead to the question of how, and to what extent, (individual) agency can overcome unfavourable conditions, even in cases where actors are able to utilise and exploit their contextual knowledge to frame policies in ways that are more likely to gain acceptance.

Our study confirmed previous findings that both structure and agency contribute towards local climate policy ambitions (Duma & Nilsson, 2024; Haupt et al., 2023; Kern et al., 2021a; Wurzel et al., 2019), but also provided new insights into how individuals might be able to exercise agency more effectively. Specifically, we found that climate managers were able to exploit their knowledge of local structural conditions by framing policy options in a way that they felt would be most likely to garner support. Scholars have only recently begun to address these issues in the context of local climate governance (Zanocco & Sousa-Silva, 2023), but we feel that it should be the focus of much more research – both in climate policy and other sectors. Indeed, because we would expect individuals who have a more extensive knowledge of how to exploit contextual conditions to be better placed to achieve their objectives, we suggest that our study has relevance for the broader place leadership literature that features regularly in *Regional Studies* (e.g., Beer et al., 2019). Such behaviour would echo the strategies of successful policy entrepreneurs (Cairney, 2018), but has not been the subject of much empirical research that focuses specifically on the interplay between structure and agency. If, at some point, we are able to obtain a more complete understanding of the role of local agency in policymaking, we may be better placed to assess how both individuals and structures contribute to policy outputs. To help organise future studies in this area, we present a two-dimensional diagram to hypothesise how structure and agency may shape local climate policy and the likelihood that a municipality becomes a climate forerunner, follower or latecomer (Figure 2). We recognise that exogenous factors, such as the emergence of social movements such as FfF, high-profile international climate summits, and external events (such as severe weather events), influence policymaking, potentially by opening windows of opportunity for climate managers. Nonetheless, *ceteris paribus*, we suggest that structural conditions and levels of local agency can help to predict a locality's level of ambition in terms of climate policy – and, moreover, the same theoretical principles may well apply in other policy sectors. Furthermore, the two dimensions may well be mutually reinforcing, in that greater agency on behalf of climate managers (and therefore more ambitious policy) could strengthen green party representation and civil society within a municipality, and therefore make local conditions more conducive to climate action. Conversely, municipalities are perhaps more likely to be able to appoint highly skilled climate managers and well-resourced teams if their local context is more amenable to progressive policy. Nevertheless, these assumptions need to be tested by studies that put more emphasis on the distinct skills and qualifications of climate managers, and that take into account other views on their work and success (e.g., through interviews with their colleagues).

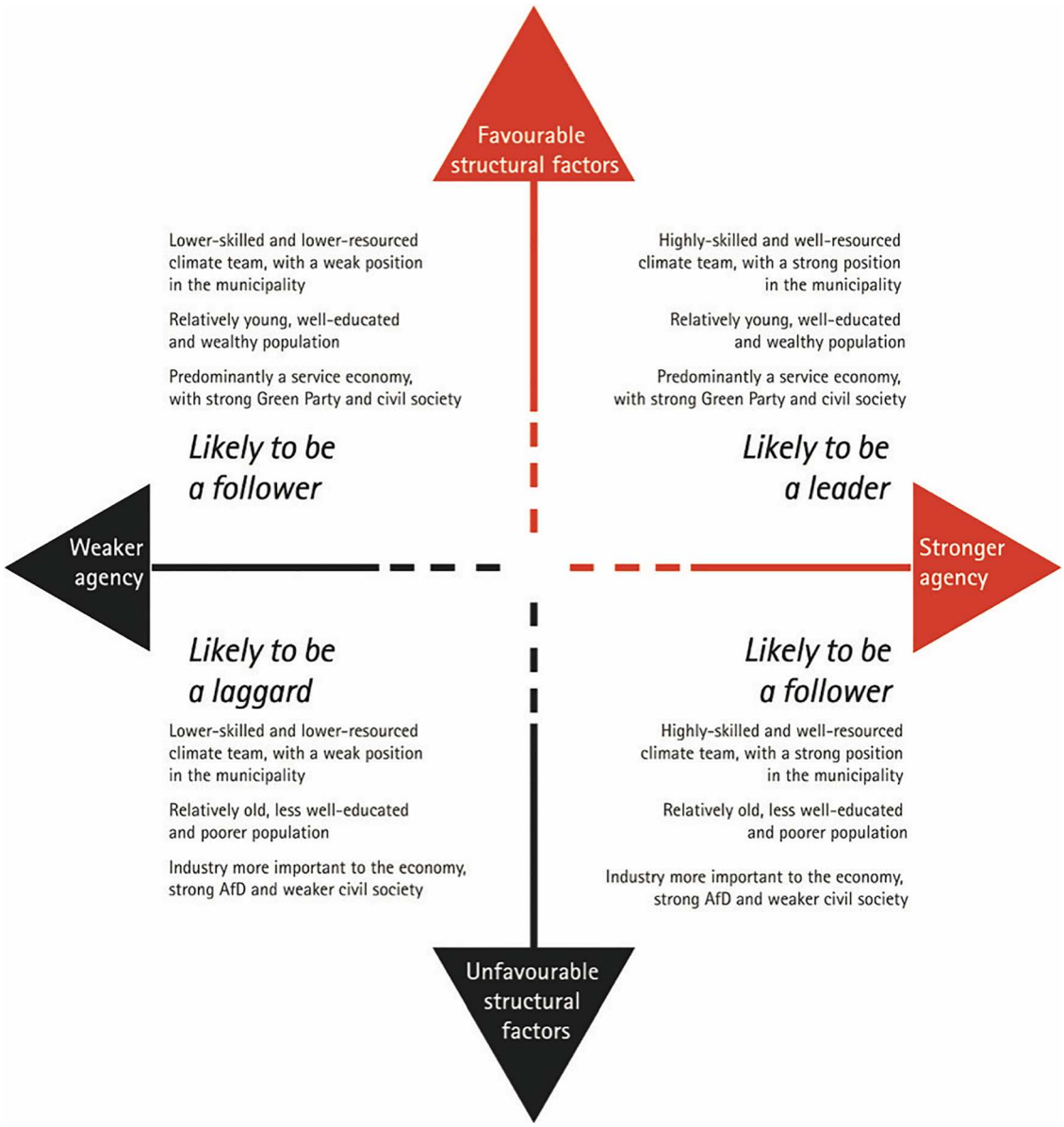

Figure 2. Expected interrelations between structural conditions, agency and climate policy.
Source: Authors.

6. CONCLUSIONS

We found that climate managers can exercise considerable agency to further their policy objectives, particularly in municipalities where the local conditions were not conducive to ambitious action. Although structure and agency remain difficult to disentangle, both elements shaped policymaking in our 11 towns, because climate managers were able to use their knowledge of local conditions to frame policies in a way that would be most appropriate within their policymaking contexts. Both structure and agency contribute towards policy outputs, and therefore space exists for individuals within municipalities to advance more ambitious agendas, even in the most unexpected places. We suggest that this applies not only in terms of climate policy, but also more generally in other sectors where local actors seek to exercise place leadership and/or push forward particular policy agendas. Nonetheless, given that our work is highly explorative and addresses an under-researched topic, further studies are necessary to examine, test and expand on our findings, ideally by drawing on case studies from countries other than Germany.

Such research will not necessarily be easy to undertake. First, the influence of individual agents on policymaking remains extremely difficult to measure, not least because their actions often result in unpredictable and subjective responses from other actors. Second, even if we can agree on appropriate methods, gathering sufficient empirical data will also be tricky, particularly where local agents do not exercise much influence. We found that it was much more difficult to study municipalities that are lagging behind with regard to climate policy compared with forerunners. Arranging interviews with policymakers

and civil society actors was more challenging, fewer documents were available to be analysed and there was little local media coverage of climate-related activities. Our sample included three municipalities that operate within unfavourable structural conditions, but all our climate managers were highly skilled (e.g., they all held university degrees), had their own budgets and were able to exercise some agency. Notably, although we initially tried to examine other similarly disadvantaged places, we were not able to arrange interviews with relevant officers. One potential interview partner from a municipal administration even explained their rationale for rejecting our invitation by specifying that their municipality has so far done little to act on climate change and thus an interview 'would not be very fruitful' for our research. Although we were not able to undertake extensive research into such municipalities, we suspect that this lack of action might reflect the limited agency that climate managers were able to exercise. Overall, therefore, despite the need for more studies into climate policy in smaller and less active cities, and also more generally into how key individuals might exercise agency and push a municipality in a particular direction, we do not anticipate that researchers will find it straightforward to plan and execute this research.

To return to Figure 2, it may well be the case that municipalities located close to the bottom left-hand corner are not only 'laggards', but also more difficult to study. Nonetheless, we hope that our typology of the various factors that can help or hinder local climate action, along with our characterisation of how structure and agency might contribute towards different levels of climate ambition, provides a useful grounding and heuristic to inform this research. We feel strongly that such studies are necessary, both to inform future climate action in more disadvantaged places and also to increase our understanding of how structures and agency shape policymaking in different contexts.

DATA AVAILABILITY STATEMENT

The participants in this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research, supporting data are not available.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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NOTE

1. In 2022, there were 113 towns in Germany with a population between 50,000 and 100,000 inhabitants. Emden, which is also part of our sample, used to have more than 50,000 inhabitants, but it recently fell below this mark.

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REFERENCES

Bedsworth, L. W., & Hanak, E. (2013). Climate policy at the local level: Insights from California. *Global Environmental Change*, *23*(3), 664–677. https://doi.org/10.1016/j.gloenvcha.2013.02.004

Beer, A., Ayres, S., Clower, T., Faller, F., Sancino, A., & Sotarauta, M. (2019). Place leadership and regional economic development: A framework for cross-regional analysis. *Regional Studies*, *53*(2), 171–182. https://doi.org/10.1080/00343404.2018.1447662

Bery, S., & Haddad, M. A. (2023). Walking the talk: Why cities adopt ambitious climate action plans. *Urban Affairs Review*, *59*, 1385–1407. https://doi.org/10.1177/10780874221098951

Bulkeley, H., Castán Broto, V., & Edwards, G. A. S. (2015). *An urban politics of climate change. Experimentation and the governing of socio-technical transitions*. Routledge.

Busch, H., Bendlin, L., & Fenton, P. (2018). Shaping local response – The influence of transnational municipal climate networks on urban climate governance. *Urban Climate*, *24*, 221–230. https://doi.org/10.1016/j.uclim.2018.03.004

Cairney, P. (2018). Three habits of successful policy entrepreneurs. *Policy & Politics*, *46*(2), 199–215. https://doi.org/10.1332/030557318X15230056771696

Castán Broto, V. (2020). Climate change politics and the urban contexts of messy governmentalities. *Territory, Politics, Governance*, *8*(2), 241–258. https://doi.org/10.1080/21622671.2019.1632220

Corcaci, A., & Kemmerzell, J. (2023). Trans-local action and local climate policy. Configurations of success for climate innovations in the European multilevel system. *Review of Policy Research*, *40*(6), 1120–1143. https://doi.org/10.1111/ropr.12536

Duma, N., & Nilsson, I. (2024). Local factors driving the adoption of municipal voluntary environmental programs: The case of Sweden's eco-municipalities. *Journal of Environmental Planning and Management*, *67*(8), 1678–1701. https://doi.org/10.1080/09640568.2023.2178883

Eckersley, P. (2018). *Power and capacity in urban climate governance. Germany and England compared*. Peter Lang.

Eckersley, P., & Lakoma, K. (2022). Straddling multiple streams: Focusing events, policy entrepreneurs and problem brokers in the governance of English fire and rescue services. *Policy Studies*, *43*(5), 1001–1020. https://doi.org/10.1080/01442872.2021.1892620

Fenton, P. (2016). *Sustainability· strategy· space: Exploring influences on governing for urban sustainability in municipalities*. Linköping University Electronic Press.

Fenton, P., & Paschek, F. (2018). Projects, participation and planning across boundaries in Göttingen. *Regional Studies, Regional*

Science, *5*(1), 81–89. https://doi.org/10.1080/21681376.2018.1428498

Giddens, A. (1979). *Central problems in social theory: Action, structure, and contradiction in social analysis*. University of California Press.

Göpfert, C., Wamsler, C., & Lang, W. (2019). A framework for the joint institutionalization of climate change mitigation and adaptation in city administrations. *Mitigation and Adaptation Strategies for Global Change*, *24*(1), 1–21. https://doi.org/10.1007/s11027-018-9789-9

Growe, A., & Freytag, T. (2019). Image and implementation of sustainable urban development: Showcase projects and other projects in Freiburg, Heidelberg and Tübingen, Germany. *Raumforschung und Raumordnung | Spatial Research and Planning*, *77*(5), 457–474. https://doi.org/10.2478/rara-2019-0035

Grzymala-Kazlowska, A., & O'Farrell, L. (2023). Where is agency in the context of urban transformation? Exploring the narratives of institutional stakeholders and community activists in Birmingham. *Urban Studies*, 2496. https://doi.org/10.1177/00420980221144144

Haupt, W., Eckersley, P., Irmisch, J., & Kern, K. (2023). How do local factors shape transformation pathways towards climate-neutral and resilient cities? *European Planning Studies*, *31*(9), 1903–1925. https://doi.org/10.1080/09654313.2022.2147394

Haupt, W., & Kern, K. (2022). Explaining climate policy pathways of unlikely city pioneers: The case of the German city of Remscheid. *Urban Climate*, *45*, 101220. https://doi.org/10.1016/j.uclim.2022.101220

Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, R. E., Mayall, E. E., Wray, B., Mellor, C., & van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: A global survey. *The Lancet Planetary Health*, *5*(12), e863–e873. https://doi.org/10.1016/S2542-5196(21)00278-3

Homsy, G. C. (2018). Unlikely pioneers: Creative climate change policymaking in smaller U.S. cities. *Journal of Environmental Studies and Sciences*, *8*(2), 121–131. https://doi.org/10.1007/s13412-018-0483-8

Hörter, A., Schirrmacher, J., Beer, M., Sommer, B., & Utz, J. (2018). *Schlüsselakteure bewegen kommunalen Klimaschutz. Erfolgreicher Klimaschutz dank Schlüsselakteuren*. Hg. v. Europa-Universität Flensburg. content/uploads/2018/05/Leitfaden_Erfolgreicher-kommunaler-Klimaschutz-dank-Schl%C3%BCsselakteuren.pdf

Huber, R. A. (2020). The role of populist attitudes in explaining climate change skepticism and support for environmental protection. *Environmental Politics*, *29*(6), 959–982. https://doi.org/10.1080/09644016.2019.1708186

Huber, R. A., Fesenfeld, L., & Bernauer, T. (2020). Political populism, responsiveness, and public support for climate mitigation. *Climate Policy*, *20*(3), 373–386. https://doi.org/10.1080/14693062.2020.1736490

Kalt, T. (2021). Jobs vs. Climate justice? Contentious narratives of labor and climate movements in the coal transition in Germany. *Environmental Politics*, *30*(7), 1135–1154. https://doi.org/10.1080/09644016.2021.1892979

Keeler, L. W., Beaudoin, F., Wiek, A., John, B., Lerner, A. M., Beecroft, R., et al. (2019). Building actor-centric transformative capacity through city–university partnerships. *Ambio*, *48*(5), 529–538. https://doi.org/10.1007/s13280-018-1117-9

Kenkmann, T., Köhler, B., Hesse, T., & Loschke, C. (2022). *Wirkungsanalyse für das Klimaschutzmanagement in Kommunen - Fördermittelnutzung*. Dessau-Roßlau.

Kern, K., Haupt, W., & Niederhafner, S. (2021a). Entwicklungspfade städtischer Klimapolitik. *disP – The Planning Review*, *57*(4), 32–49. https://doi.org/10.1080/02513625.2021.2060576

Kern, K., Irmisch, J., Odermatt, C., Haupt, W., & Kissling-Näf, I. (2021b). Cultural heritage, sustainable development, and climate policy: Comparing the UNESCO world heritage cities of Potsdam and Bern. *Sustainability*, *13*(16), 9131. https://doi.org/10.3390/su13169131

Kern, K., Eckersley, P., & Haupt, W. (2023). Diffusion and upscaling of municipal climate mitigation and adaptation strategies in Germany. *Regional Environmental Change*, *23*(1), 28. https://link.springer.com/article/10.1007/s10113-022-02020-z

Kingdon, J. W. (1984). *Agendas, alternatives, and public policies*. Little, Brown.

Knaggård, Å. (2015). The multiple streams framework and the problem broker. *European Journal of Political Research*, *54*(3), 450–465. https://doi.org/10.1111/1475-6765.12097

Krause, R. M. (2011). Policy innovation, intergovernmental relations, and the adoption of climate protection initiatives by U.S. Cities. *Journal of Urban Affairs*, *33*(1), 45–60. https://doi.org/10.1111/j.1467-9906.2010.00510.x

Kulin, J., Johansson Sevä, I., & Dunlap, R. E. (2021). Nationalist ideology, rightwing populism, and public views about climate change in Europe. *Environmental Politics*, *30*(7), 1111–1134. https://doi.org/10.1080/09644016.2021.1898879

Lintz, G. (2016). A conceptual framework for analysing inter-municipal cooperation on the environment. *Regional Studies*, *50*(6), 956–970. https://doi.org/10.1080/00343404.2015.1020776

Moloney, S., & Fünfgeld, H. (2015). Emergent processes of adaptive capacity building: Local government climate change alliances and networks in Melbourne. *Urban Climate*, *14*, 30–40. https://doi.org/10.1016/j.uclim.2015.06.009

Nasiritousi, N., Hjerpe, M., & Linnér, B.-O. (2016). The roles of non-state actors in climate change governance: Understanding agency through governance profiles. *International Environmental Agreements: Politics, Law and Economics*, *16*(1), 109–126. https://doi.org/10.1007/s10784-014-9243-8

Olson, P., Svane, Ö., & Gullström, C. (2021). Mind the gap! Backcasting local actors' climate transition in Hammarby Sjöstad, Stockholm. *Futures*, *128*, 102703. https://doi.org/10.1016/j.futures.2021.102703

Ortner, S. B. (2006). *Anthropology and social theory: Culture, power, and the acting subject*. Duke University Press. https://doi.org/10.1215/9780822388456

Otto, A., Kern, K., Haupt, W., Eckersley, P., & Thieken, A. H. (2021). Ranking local climate policy: Assessing the mitigation and adaptation activities of 104 German cities. *Climatic Change*, *167*(1–2). https://doi.org/10.1007/s10584-021-03142-9

Ravetz, J., Neuvonen, A., & Mäntysalo, R. (2021). The new normative: Synergistic scenario planning for carbon-neutral cities and regions. *Regional Studies*, *55*(1), 150–163. https://doi.org/10.1080/00343404.2020.1813881

Reardon, L. (2018). Networks and problem recognition: Advancing the multiple streams approach. *Policy Sciences*, *51*(4), 457–476. https://doi.org/10.1007/s11077-018-9330-8

Sancino, A., Stafford, M., Braga, A., & Budd, L. (2022). What can city leaders do for climate change? Insights from the C40 cities climate leadership group network. *Regional Studies*, *56*(7), 1224–1233. https://doi.org/10.1080/00343404.2021.2005244

Sotarauta, M., & Beer, A. (2017). Governance, agency and place leadership: Lessons from a cross-national analysis. *Regional Studies*, *51*(2), 210–223. https://doi.org/10.1080/00343404.2015.1119265

Toivonen, H. (2022). Themes of climate change agency: A qualitative study on how people construct agency in relation to climate change. *Humanities and Social Sciences Communications*, *9*(1), 102. https://doi.org/10.1057/s41599-022-01111-w

van der Heijden, J. (2019). Studying urban climate governance: Where to begin, what to look for, and how to make a meaningful contribution to scholarship and practice. *Earth System Governance*, *1*, 100005. https://doi.org/10.1016/j.esg.2019.100005

Vedeld, T., & Hofstad, H. (2022). How to lead collaborative governance for climate transformation: A guide for city leaders and decision-makers. *Journal of City Climate Policy and Economy*, *1*(1), 65–76. https://doi.org/10.3138/jccpe-2022.1.1.0005

Wright, S. J., Sietsma, A., Korswagen, S., Athanasiadis, I. N., & Biesbroek, R. (2023). How do countries frame climate change? A global comparison of adaptation and mitigation in UNFCCC national communications. *Regional Environmental Change*, *23*(129). https://doi.org/10.1007/s10113-023-02113-3

Wurzel, R. K. W., Moulton, J. F. G., Osthorst, W., Mederake, L., Deutz, P., & Jonas, A. E. G. (2019). Climate pioneership and leadership in structurally disadvantaged maritime port cities. *Environmental Politics*, *28*(1), 146–166. https://doi.org/10.1080/09644016.2019.1522039

Zahran, S., Brody, S. D., Vedlitz, A., Grover, H., & Miller, C. (2008). Vulnerability and capacity: Explaining local commitment to climate-change policy. *Environment and Planning C: Government and Policy*, *26*(3), 544–562. https://doi.org/10.1068/c2g

Zanocco, C., & Sousa-Silva, R. (2023). Extreme heat experience influences public support for local climate adaptation policies in Germany. *Urban Climate*, *52*, 101759. https://doi.org/10.1016/j.uclim.2023.101759

Zeigermann, U., Kammerer, M., & Böcher, M. (2023). What drives local communities to engage in climate change mitigation activities? Examining the rural–urban divide. *Review of Policy Research*, *40*(6), 894–919. https://doi.org/10.1111/ropr.12528